A Pen Based System for The Psychiatric Emergency Room

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Translating paper based clinical assessment forms to computer based forms for a Psychiatric Emergency Room was facilitated by the use of a computer using Windows for Pen® system and a familiar database. Offering a smooth transition from paper to electronic forms was the primary goal for this busy metropolitan Psychiatric Emergency Room.

INTRODUCTION

In the busy day-to-day activities of a city hospital Psychiatric Emergency Room, any method of speeding up the recording of data or making data entry easier can make a significant difference to a clinical staff that dislikes paperwork as much as they dislike a backlog of patients. One of the quickest methods of direct data entry is a well organized pen based screen that is easy to read, quick to learn and simple to use.

At the Albert Einstein College of Medicine, Department of Psychiatry in New York, a prototype computer pen based Psychiatric Emergency Room system has been developed. This particular emergency room already has a clinical database developed using Foxpro® and they use a scanned medical record for input[1]. Taking the scanned record and translating it into a direct entry pen input form was a logical conclusion. The scannable medical record database was developed several years ago[1] as a way to easily enter data into a computer by an ER staff that was resistant to entering data via keyboard. Clinicians seem to have become more interested in computers and their capabilities over the last couple of years, and as a result they have expressed a new willingness to begin to enter data themselves.

METHOD

Beginning with a clinical form that the staff was already familiar with, helped the development process. Maintaining the "look and feel" of their familiar clinical forms and translating them to the computer screen assisted in the transition to electronic forms.

DESIGN PHASE

Rather than designing forms that require a great deal of typing to enter of information, it was felt that check boxes, radio buttons, list boxes and other types of "ease of use" features would be more beneficial in helping to choose items for data entry. This is especially true if the paper form that clinicians had been using was a scan form in which they filled in circles with a pen from a choice of items.

The second consideration was mouse versus pen input. A survey of the ER clinicians was conducted to assess their personal level of computer expertise and level of comfort with keyboard and/or mouse input. It was clear that a great number of them were not as yet comfortable with the mouse as an input device. The conclusion to try pen input was based on the results of this survey.

The current database system used in this ER was developed in Foxpro®, and the new system for pen input was also designed using the same system. Navigating the forms on-screen is accomplished with simple buttons and clinicians seem to acclimate easily to pen based computing. Entering data on the form is likewise easy. The clinician simply needs to touch a check box to choose from a list of presenting symptoms or choose from a scrolling list for other data. Specialized error checking can also be implemented, for example, checking dosage ranges for medications. This system also produces a written summary of the various data fields that can be printed out and used as a clinical summary that can be placed into the medical record.

One of the methods of data input that seems to interest clinicians is the pen for computers. They describe it as a natural evolution from pen and pencil and they like the speed and flexibility that it offers to a novice computer user who might otherwise feel intimidated by data entry.

References

1. Kennedy,RS, Salamon, I, McKegney, FP. A New Clinical Information System for Psychiatric Emergency. Proc 15th SCAMC McGraw Hill 1991;872

2. Heathfield, H.A., Hardiker, N.R., Kirby, J. Using the PEN & PAD Information Model to Support Hospital Based Clinical Care. Proc, 18th SCAMC. Hanley & Belfus, Inc. Phila., 1994, 452-456.

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